

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the claims

1. - 122. (Cancelled).

123. (Currently Amended): A device for managing respiration of a patient comprising:

at least one electrode ~~configured to target~~ in electrical communication with a diaphragm or phrenic nerve tissue of a patient's body ~~wherein the at least one electrode is configured to deliver electrical stimulation to the diaphragm or phrenic nerve tissue to thereby elicit a diaphragm response; and ;~~

a stimulator in electrical communication with the at least one electrode whereby the stimulator receives ~~configured to deliver a stimulation signal to the diaphragm or phrenic nerve tissue through the at least one electrode in response to sensed respiration due to~~ phrenic nerve activity detected internally within the patient's body in response to respiration sensed by at least one electrode,

wherein the stimulator is programmed to generate an electrical stimulation signal in response to the sensed respiration and deliver the electrical stimulation signal through the at least one electrode to the diaphragm or phrenic nerve tissue, and

wherein the electrical stimulation signal elicits a diaphragm response such that to elicit an inspiration duration volume is different from an intrinsic inspiration duration volume of an intrinsic breath.

124. (Currently Amended): The device of claim 123 wherein the stimulator is programmed ~~configured~~ to deliver a stimulation signal to the tissue through the at least one electrode to elicit an increased inspiration duration volume with respect to ~~[[an]] the~~ intrinsic inspiration duration volume of ~~[[an]] the~~ intrinsic breath.

125. (Currently Amended): The device of claim 123 wherein the stimulator is programmed ~~configured~~ to deliver a stimulation signal to the tissue through the at least one electrode to elicit a decreased exhalation duration volume with respect to ~~[[an]]~~ the intrinsic exhalation ~~duration volume~~ of ~~[[an]]~~ the intrinsic breath.

126. (Currently Amended): A device for managing respiration of a patient comprising:

at least one electrode ~~configured to target~~ in electrical communication with a diaphragm or phrenic nerve tissue of a patient's body ~~wherein the at least one electrode is configured to deliver electrical stimulation to the diaphragm or phrenic nerve tissue to thereby elicit a diaphragm response; and ;~~

a stimulator in electrical communication with the at least one electrode whereby the stimulator receives ~~configured to deliver a stimulation signal to the diaphragm or phrenic nerve tissue through the at least one electrode in response to sensed respiration due to~~ phrenic nerve activity detected internally within the patient's body in response to respiration sensed by at least one electrode.

wherein the stimulator is programmed to generate an electrical stimulation signal in response to the sensed respiration and deliver the electrical stimulation signal through the at least one electrode to the diaphragm or phrenic nerve tissue, and

wherein the electrical stimulation signal elicits a diaphragm response such that to elicit an exhalation duration volume is different from an intrinsic exhalation duration volume of an intrinsic breath.

127. (Currently Amended): The device of claim ~~[[123]]~~ 126 wherein the stimulator is programmed ~~configured~~ to deliver a stimulation signal to the tissue through the at least one electrode to elicit a decreased exhalation duration volume with respect to ~~[[an]]~~ the intrinsic exhalation ~~duration volume~~ of ~~[[an]]~~ the intrinsic breath.

128. – 140. (Cancelled).

141. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is programmed further configured to elicit an inspiration rate different from an intrinsic inspiration rate.

142. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is programmed further configured to elicit an exhalation rate different from an intrinsic exhalation rate.

143. – 148. (Cancelled).

149. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is programmed configured to deliver a stimulation signal to the tissue through the at least one electrode to elicit a slow elongated inspiration.

150. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is programmed configured to deliver a stimulation signal to the tissue through the at least one electrode to elicit a fast, short inspiration.

151. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is programmed configured to deliver low level sequential stimulations.

152. (Currently Amended): The device of claim [[123]] 126 wherein the stimulator is configured to deliver a stimulation signal that is directed to manipulating blood gases to thereby treat apnea disordered breathing.

153. (Currently Amended): A device for managing respiration of a patient comprising:

at least one electrode ~~configured to target~~ in electrical communication with a diaphragm or phrenic nerve tissue of a patient's body ~~wherein the at least one electrode is configured to deliver electrical stimulation to the diaphragm or phrenic nerve tissue to thereby activate at least a portion of the diaphragm; and ;~~

a stimulator in electrical communication with the at least one electrode whereby the stimulator receives configured to deliver a stimulation signal to the diaphragm or phrenic nerve tissue through the at least one electrode in response to sensed respiration due to phrenic nerve activity detected internally within the patient's body in response to respiration sensed by at least one electrode,

wherein the stimulator is programmed to generate an electrical stimulation signal in response to the sensed respiration and deliver the electrical stimulation signal through the at least one electrode to the diaphragm or phrenic nerve tissue, and

wherein the electrical stimulation signal activates at least a portion of a diaphragm such that to elicit an inspiration duration volume is different from an intrinsic inspiration duration volume of an intrinsic breath.

154. (Currently Amended): The device of claim 153 wherein the stimulator is programmed configured to deliver a stimulation signal to the tissue through the at least one electrode to elicit an increased inspiration duration volume with respect to ~~[[an]]~~ the intrinsic inspiration duration volume of ~~[[an]]~~ the intrinsic breath.

155. (Currently Amended): The device of claim 153 wherein the stimulator is programmed configured to deliver a stimulation signal to the tissue through the at least one electrode to elicit a decreased exhalation duration volume with respect to an intrinsic exhalation duration volume of ~~[[an]]~~ the intrinsic breath.

156. (Currently Amended): The device of claim 153 wherein the stimulator is programmed configured to deliver a stimulation signal to the tissue through the at least one electrode to elicit a decreased exhalation duration with respect to an intrinsic exhalation duration of ~~[[an]]~~ the intrinsic breath.

157. (Currently Amended): The device of claim 153 ~~further configured wherein the stimulator is programmed to deliver a stimulation signal to the tissue through the at least one electrode~~ to elicit an inspiration rate different from an intrinsic inspiration rate.

158. (Currently Amended): The device of claim 153 ~~further configured~~ wherein the stimulator is programmed to deliver a stimulation signal to the tissue through the at least one electrode to elicit an exhalation rate different from an intrinsic exhalation rate.